

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated June 22, 2009 has been received and its contents carefully reviewed.

Claims 1, 4, and 6 are hereby amended. Claim 2 is canceled without prejudice or disclaimer. No new matter has been added. Accordingly, claims 1 and 4-9 are currently pending. Reexamination and reconsideration of the pending claims are respectfully requested.

The Office Action rejects claims 4 and 6 under 35 U.S.C. §112, second paragraph, as being indefinite. Applicants have amended claims 4 and 6 to more clearly define claimed subject matter. Applicants, therefore, respectfully request withdrawal of the rejection.

The Office Action rejects claims 1-2 and 4-9 under 35 U.S.C. §103(a) as being anticipated by U.S. Patent Application Publication No. 2001/0055892 to Nishikawa et al. (*Nishikawa*) in view KR 20020097415 (*KR 415*) or KR 20040000709 (*KR 709*). Claim 2 is canceled, so the rejection of claim 2 is moot. Applicants respectfully traverse the rejection of claims 1 and 4-9.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. The combined teaching of *Nishikawa*, *KR '415*, and *KR '709* does not teach or suggest each and every element of claims 1 and 4-9, and thus cannot render these claims obvious.

Independent claim 1 recites, “organic siloxane resins, which are condensed polymers, manufactured by a hydrolysis and condensation reaction of silane compounds consisting essentially of one or more kinds of hydrosilane compounds in the presence of a base catalyst ... the weight average molecular weight of the resins is at least 5,000.” *Nishikawa* fails to teach at least these elements of claims 1. In fact, the Office Action admits that *Nishikawa* “fails to teach that the MW is at least 5000.” *Office Action*, page 3. *KR 415* and *KR 709* do not cure the deficiency of *Nishikawa*.

Nishikawa discloses using an alkali (basic) catalyst in the hydrolysis and condensation process. *KR 415* and *KR 709* both disclose using an acid catalyst (hydrochloric acid) in Examples 1-2 and Comparison 1. *KR 415 English Translation*, page 19, line 13, to page 22, line 8, and *KR 709 English Translation*, page 16, line 9, to page 18, line 14. Because *Nishikawa* and *KR 415/KR 709* use two different catalysts and thus two different process, the resins produced by using two different catalysts would have different molecular weights. It is improper to conclude that *KR 415/KR 709* disclose the weight average molecular weight of the resins in claim 1 is at least 5,000. *Nishikawa* fails to teach at least these elements of claims 1.

Furthermore, one of ordinary skill in the art would not have been motivated to combine *Nishikawa* and *KR 415/KR 709*, as *Nishikawa* and *KR 415/KR 709* disclose two different processes.

Similarly, independent claim 4 recites, “organic siloxane resins, which are condensed polymers, manufactured by a hydrolysis and condensation reaction of silane compounds consisting essentially of one or more kinds of hydrosilane compounds and silane compounds having Chemical Formula 3 or 4 in the presence of a base catalyst ... wherein the weight average molecular weight of the resins is at least 5,000.” *Nishikawa* fails to teach at least these elements of claims 4. *KR 415* and *KR 709* do not cure the deficiency of *Nishikawa*.

Accordingly, claims 1 and 4 are allowable over the combined teaching of *Nishikawa*, *KR '415*, and *KR '709*. Claims 5-9, which variously depend from claim 1, are also allowable for at least the same reasons as claim 1. Applicants, therefore, respectfully request withdrawal of the rejection.

The Office Action rejects claims 1, 2, and 4-9 under 35 U.S.C. §103(a) as being obvious over KR 20020097415 (*KR 415*). Claim 2 is canceled, so the rejection of claim 2 is moot. Applicants respectfully traverse the rejection of claims 1 and 4-9.

KR 415 fails to teach or suggest at least the above-recited elements of claims 1 and 4. In fact, *KR 415* specifically discloses using an acid catalyst (hydrochloric acid) in Examples 1-2 and Comparison 1. *KR 415 English Translation*, page 19, line 13, to page 22, line 8. Furthermore, the Specification provides that “it is desirable to use a base catalyst”, and the use of

the base catalyst in the hydrolysis and condensation reaction yields superior and unexpected results. *Specification*, page 8, lines 7-11, and page 12, line 20. Specifically, preferred embodiments 1 and 2 of the present application were prepared in the presence of a base catalyst (methylamine) and have a dielectric constant of 2.24 and 2.48, respectively. *Specification*, page 21, Table 1. Examples 1 and 2 of *KR 415* were prepared in the presence of an acid catalyst (hydrochloric acid) and have a dielectric constant of 2.51 and 2.56, respectfully, which are higher than the dielectric constants of preferred embodiments 1 and 2 of the present application. *KR 415 English Translation*, page 23, Table 1. Accordingly, claims 1 and 4 are allowable over *KR 415*. Claims 5-9, which variously depend from claim 1, are also allowable for at least the same reasons as claim 1. Applicants, therefore, respectfully request withdrawal of the rejection

The Office Action rejects claims 1, 2, and 4-9 under 35 U.S.C. §103(a) as being obvious over *KR 20030000709 (KR 709)*. Claim 2 is canceled, so the rejection of claim 2 is moot. Applicants respectfully traverse the rejection of claims 1 and 4-9.

KR 709 fails to teach or suggest at least the above-recited elements of claims 1 and 4. In fact, *KR 709* specifically discloses using an acid catalyst (hydrochloric acid) in Practical Example 1 and Comparison Examples 1 and 2. *KR 709 English Translation*, page 16, line 9, to page 18, line 14. Practical Example 1 of *KR 709* was prepared in the presence of an acid catalyst (hydrochloric acid) and has a dielectric constant of 2.71, which is higher than the dielectric constants of preferred embodiments 1 and 2 of the present application. *KR 709 English Translation*, page 20, Table 1. Accordingly, claims 1 and 4 are allowable over *KR 709*. Claims 5-9, which variously depend from claim 1, are also allowable for at least the same reasons as claim 1. Applicants, therefore, respectfully request withdrawal of the rejection

The Office Action rejects claims 1-2 and 4-9 under 35 U.S.C. §103(a) as being obvious over U.S. Patent Application Publication No. 2002/0106500 to Albano et al. (*Albano*). Claim 2 is canceled, so the rejection of claim 2 is moot. Applicants respectfully traverse the rejection of claims 1 and 4-9.

Albano fails to teach or suggest at least the above-recited elements of claims 1 and 4. *Albano* relates to plasma curing process and the porous dielectric material including hydrogen silsesquioxane (HSQ) dielectric materials, mixed HSQ/methylsilsesquioxane (MSQ) dielectric

material, etc. *Albano* does not disclose the synthesis of siloxane compounds in detail. The organic siloxane resins of claims 1 and 4 are prepared by a hydrolysis and condensation reaction of silane compounds in the presence of a base catalyst, and as a result, the resins have superior mechanical strength and low dielectric constant. Accordingly, claims 1 and 4 are allowable over *Albano 709*. Claims 5-9, which variously depend from claim 1, are also allowable for at least the same reasons as claim 1. Applicants, therefore, respectfully request withdrawal of the rejection

The application is in condition for allowance and early, favorable action is respectfully solicited. If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

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